



NOAA Fisheries

Pacific Islands Fisheries Science Center

During FY 2004, the Pacific Islands Fisheries Science Center ...

- 1) Sponsored the 3rd Northwestern Hawaiian Islands Science Symposium presenting the results of over twenty years of living marine and terrestrial research throughout the remote region. A wide variety of agencies and universities participated in the symposium which also drew large public participation.
- 2) Collaborated with the Pacific Islands Regional Office, the Office of Protected Species, and the Western Pacific Fishery Management Council, as well as industry and conservation groups, to implement improved longline fishing methods designed to reduce sea turtle bycatch in the reopening of U.S. longline fisheries for swordfish in Hawaii.
- 3) Hosted the 4th meeting of the Interim Scientific Committee for Tuna and Tuna-like Species in the North Pacific.
- 4) Promoted overseas experimentation and adoption of longline fishing gear less injurious to sea turtles. Experimental collaborations are underway with Japan, Brazil, and Costa Rica, and with the IATTC and WWF in Ecuador, Guatemala, Panama, and Mexico. Other NOAA facilities are involved with additional international efforts in other countries.
- 5) Initiated the first health and disease and foraging studies of endangered Hawaiian monk seals in the main Hawaiian Islands.
- 6) Initiated an endangered Hawaiian monk seal juvenile rehabilitation study at French Frigate Shoals in the Northwestern Hawaiian Islands in collaboration with The California Marine Mammal Center and USFWS.
- 7) Published an analysis of the first documented massive coral bleaching event (2002) in the Northwestern Hawaiian Islands. Recorded a second mass coral bleaching event (2004) and documented significant mortality from the 2002 bleaching event.
- 8) Initiated the first cetacean research project at the PIFSC using a mark recapture method of estimating false killer whale population size in local Hawaiian waters.
- 9) Collected an additional 112 metric tons of marine debris off of the coral reefs and beaches of the remote Northwestern Hawaiian Islands, which pose a hazard to protected species such as endangered Hawaiian monk seals and threatened green sea turtles, as well as damage healthy coral reefs and essential fish habitat.

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- 10) Published discovery of two algal species new to science from the Northwestern Hawaiian Islands: *Acrosymplyon brainardii* and *Scinaia huismannii*.
 - 11) Conducted a stock assessment of Pacific swordfish that indicates the resource can well sustain exploitation at the highest levels of fishing effort that have been exerted to date.
 - 12) Reported in Status of Coral Reefs of the World: 2004 that macro algae and not corals dominate many healthy subtropical reef systems in the Northwestern Hawaiian Islands.
 - 13) Conducted a cooperative NOAA and State of Hawaii survey of black (deep sea) corals.
 - 14) Collaborated with the University of Hawaii's Hawaii Mapping Research Group, the Hawaii Undersea Research Laboratory, and other key NOAA partners to produce the Bathymetric Atlas of the Northwestern Hawaiian Islands.
 - 15) Presented results of a suite of socioeconomic studies of Hawaii's longline fishery, including a detailed look at the use of contract foreign labor in the fishery.
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- Conducted an in-depth fisheries oceanography survey of the American Samoa tuna fishing grounds
- Conducted an international satellite tracking research project with collaborators from Japan, and Taiwan to study the pelagic ecology and oceanic migrations of loggerhead turtles in the North Pacific.
- Completed our annual nesting survey of threatened Hawaiian green sea turtles at French Frigate Shoals in the Northwestern Hawaiian Islands.
- Published a rapid ecological assessment algal sampling protocol designed specifically for remote tropical islands.
- Collaborated with the National Ocean Service's Northwestern Coral Reef Ecosystem Reserve to develop on-line encyclopedia of marine plants in the Northwestern Hawaiian Islands.
- Continued monitoring and collecting data and samples from the US Phoenix Islands, US Line Islands, American Samoa, and the Northwestern Hawaiian Islands.
- Entered into collaborative partnerships with molecular researchers from the University of Ghent, Belgium and the University of Louisiana, Lafayette to understand molecular population structure of select algal species in the tropical Pacific.

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- Presented the InPort Data Catalog prototype designed to maintain and search a “who, what, where, and when” catalog of fisheries data holdings. InPort provides capabilities to (1) share data across NOAA Fisheries, (2) search and study existing data for use in fisheries science, management, and regulation, and (3) ensure the quality and understandability of our data in support of ecosystems-based management. InPort also stores details on the quality and completeness of data, its confidentiality policies, research models, data collection protocols, methodologies, and usage constraints.
 - Published paper describing a new morphometric method for estimating body size at sexual maturity in slipper and spiny lobster resources important to the NWHI lobster trap fishery.
 - Presented 11 papers at the 10th International Coral Reef Symposium in Okinawa, Japan, one paper at the 18th International Seaweed Symposium in Bergen, Norway, and 25 papers and posters at the Northwestern Hawaiian Islands' 3rd Scientific Symposium in Honolulu, Hawaii. The diverse range of topics covered included reef ecology, oceanography, and benthic habitat mapping.
 - Using monitoring surveys, documented that the ecosystem impact of a longline fishing vessel grounding (1993) to the reef at Rose Atoll has now persisted for over a decade, as characterized by a significantly greater abundance of algae/cyanobacteria and greater density of herbivorous fishes at the site of impact.
 - Completed baseline assessments and initiated monitoring surveys of coral reef ecosystems around all islands of American Samoa, the US Line and Phoenix Islands, and the NWHI. Surveys included quantitative spatial and temporal monitoring of biological populations of fish, coral, algae, macro-invertebrates, and important oceanographic processes of ecosystem function.
 - Published high-resolution bathymetric data for coral reef habitats in the Northwestern Hawaiian Islands, the Commonwealth of the Northern Mariana Islands, Guam, and the Territory of American Samoa. Surveys were conducted by the R/V AHI, a 25-foot survey launch equipped with a Reson 8101ER multibeam echosounder.
 - Collaborated with the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve to develop on-line encyclopedia of marine plants
 - Published a paper documenting the importance of sheltered habitats at NWHI atolls as juvenile reef fish nursery habitats, providing evidence in support of NOAA’s emphasis on Habitats of Particular Concern (HAPC) within Essential Fish Habitat (EFH).
 - Published a paper documenting the disproportionate abundance of endemic species in shallow reef fish assemblages of the NWHI, providing further evidence in support of HAPCs.